

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims

1. (Currently Amended) A mobile cellular telecommunications network employing macro-diversity, wherein a mobile station can establish a plurality of simultaneous radio links with a plurality of digital cells in the network, said network comprising:

means for dividing the plurality of digital cells of the network into a plurality of groups, said plurality of groups including:

a first group of geographically related digital cells, wherein the mobile station has an established radio link with at least one digital cell in the first group; and

a second group of geographically related digital cells which do not overlay or underlay the first group of cells, wherein the mobile station does not have an established radio link with any of the digital cells in the second group; and

wherein the first group of geographically related digital cells has a lower cost associated for establishing a radio link than the second group of geographically related digital cells;

responsive to the lower cost associated with the first group, means for increasing the probability that the mobile station will establish a macro-diversity radio link with a digital cell in the first geographical area rather than a digital cell in the second geographical area, said means for increasing the probability including:

means for establishing the macro-diversity radio link between the mobile station and the digital cell in the first group upon meeting a first link quality threshold; and

means for establishing the macro-diversity radio link between the mobile station and the digital cell in the second group only upon meeting a second link quality threshold that is higher than the first link quality threshold.

2. (Canceled)

3. (Previously Presented) The mobile cellular telecommunications network as claimed in claim 1, wherein the first and second link quality thresholds are required signal quality levels.

4. (Previously Presented) The mobile cellular telecommunications network as claimed in claim 1, wherein the second link quality threshold is a longer time period for which a required signal quality level is satisfied.

5. (Previously Presented) The mobile cellular telecommunications network as claimed in claim 1, wherein a plurality of layers of groups are defined, such that each digital cell is in one group within each layer.

6. (Previously Presented) The mobile cellular telecommunications network as claimed in claim 5, wherein digital cells associated with one base station are considered to be in the same group.

7-10. (Canceled)

11. (Previously Presented) The mobile cellular telecommunications network as claimed in claim 1, wherein the network is a Code Division Multiple Access network.

12-13. (Canceled)

14. (Previously Presented) The method as claimed in claim 28, wherein the first and second link quality thresholds are required signal quality levels.

15. (Previously Presented) The method as claimed in claim 28, wherein the second link quality threshold is a longer time period for which a required signal quality level is satisfied.

16. (Previously Presented) The method as claimed in claim 28, wherein a plurality of layers of groups are defined, such that each digital cell is in one group within each layer.

17. (Previously Presented) The method as claimed in claim 16, wherein digital cells associated with one base station are considered to be in the same group.

18-21. (Canceled)

22. (Previously Presented) The method as claimed in claim 28, wherein the network is a Code Division Multiple Access network.

23-26. (Canceled).

27. (Currently Amended) A mobile cellular telecommunications network employing macro-diversity, wherein a mobile station can establish a plurality of simultaneous radio links with a plurality of digital cells in the network, said network comprising:

means for dividing the plurality of digital cells of the network into a plurality of groups, said plurality of groups including:

a first group of digital cells controlled by a first radio network controller, wherein the mobile station has an established radio link with at least one digital cell in the first group; and

a second group of digital cells controlled by a second radio network controller, wherein the second group of digital cells does not overlay or underlay the first group of digital cells, and the mobile station does not have an established radio link with any of the digital cells in the second group;

wherein the first group of digital cells has a lower cost associated for establishing a radio link than the second group of digital cells;

responsive to the lower cost associated with the first group, means for increasing the probability that the mobile station will establish a macro-diversity radio link with a digital cell in the first group of digital cells rather than a digital cell in the second group, said means for increasing the probability including:

means for establishing the macro-diversity radio link between the mobile station and the digital cell in the first group upon meeting a first link quality threshold; and

means for establishing the macro-diversity radio link between the mobile station and the digital cell in the second group only upon meeting a second link quality threshold that is higher than the first link quality threshold.

28. (Currently Amended) A method of establishing macro-diversity radio links in a mobile cellular telecommunications network, wherein a mobile station can establish a plurality of simultaneous radio links with a plurality of digital cells in the network, said method comprising:

dividing the plurality of digital cells of the network into a plurality of groups, said plurality of groups including:

a first group of geographically related digital cells, wherein the mobile station has an established radio link with at least one digital cell in the first group; and

a second group of geographically related digital cells which do not overlay or underlay the first group of cells, wherein the mobile station does not have an established radio link with any of the digital cells in the second group;

wherein the first group of geographically related digital cells has a lower cost associated for establishing a radio link than the second group of geographically related digital cells;

responsive to the lower cost associated with the first group, controlling the selection of macro-diversity cells to increase the probability that the mobile station will establish a macro-diversity radio link with a digital cell in the first group of digital cells rather than a digital cell in the second group, said controlling step including:

establishing the macro-diversity radio link between the mobile station and the digital cell in the first group upon meeting a first link quality threshold; and

establishing the macro-diversity radio link between the mobile station and the digital cell in the second group only upon meeting a second link quality threshold that is higher than the first link quality threshold.

29. (Currently Amended) A method of establishing macro-diversity radio links in a mobile cellular telecommunications network, wherein a mobile station can establish a plurality of simultaneous radio links with a plurality of digital cells in the network, said method comprising:

dividing the plurality of digital cells of the network into a plurality of groups, said plurality of groups including:

a first group of digital cells controlled by a first radio network controller, wherein the mobile station has an established radio link with at least one digital cell in the first group; and

a second group of digital cells controlled by a second radio network controller, wherein the second group of digital cells does not overlay or underlay the first group of digital cells, and the mobile station does not have an established radio link with any of the digital cells in the second group;

wherein the first group of digital cells has a lower cost associated for establishing a radio link than the second group of digital cells;

responsive to the lower cost associated with the first group, controlling the selection of macro-diversity cells to increase the probability that the mobile station will establish a macro-diversity radio link with a digital cell in the first group of digital cells rather than a digital cell in the second group, said means for increasing the probability including:

establishing the macro-diversity radio link between the mobile station and the digital cell in the first group upon meeting a first link quality threshold; and

establishing the macro-diversity radio link between the mobile station and the digital cell in the second group only upon meeting a second link quality threshold that is higher than the first link quality threshold.